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Premium Brazing, Soldering and Welding products

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Spanish Fork, UT

Sil Sol - Premium 5% Sil-Phos Brazing Rod

Composition:	Copper	89.0% ± 1.0
	Phosphorus	6.0% ± 0.2
	Silver	5.0% ± 0.2
	Other elements	.15% max
Physical Properties:	Color	Gray
	Solidus	1190 F (643 C)
	Liquidus	1495 F (812 C)
	Recommended Brazing Temp	1545-1595 F (840-868 C)
	Density (lbs/in^3)	0.29
	Specific Gravity	8.14
	Electrical Conductivity (%IACS)	9.60
	Electrical Resistivity (Microhm-cm)	18.1

Sil Sol Premium 5% Sil-Phos was developed primarily for use on copper, but its use has extended to other nonferrous copper based alloys. It is used extensively on refrigeration units, air conditioning apparatus, electrical conductors, copper and brass fittings and other copper to brass equipment.

It is a copper rich, filler metal that is self fluxing on copper by virtue of its phosphorus content. The self fluxing property of this filler metal is effective on copper only. With copper-base alloys, such as brass or bronze, the joints should be fluxed. Sil Sol 5% should not be used on nickel-base and iron-base alloys, as the phosphorus reacts with the nickel or iron to form brittle compounds at the interface of the joints.

Sil Sol 15% has a strong tendency to liquidate (separation into low and high melting constituents) if heated slowly through its melting range, as normally occurs in furnace brazing. This results in leaving a “skull” of un-melted alloy behind which may be objectionable from the standpoint of appearance. In furnace brazing it is preferable to pre-place the alloys inside the joint where the skull is not visible.

Normally the corrosion resistance of Sil Sol 5% is of the same order as copper, but under certain conditions it may corrode more rapidly. Sol Sol 5% should not be used where the joints are exposed to sulphur compounds, especially in gasses or oils at temperatures above normal room temperature. As the corrosion by sulfur is cumulative, even very small percentages will eventually cause failure of the joint by disintegration. Exposure to pressured steam can also result in accelerated corrosion.

Sil Sol 5% conforms to : Unified Numbering System (UNS) C55284 and American Welding Society (AWS) A5.8/A5.8M BCuP-3